

# LITHOLOGIC LOG

WELL No. EWC003

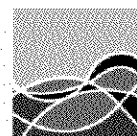
Logged By: Zach Dickson  
 Checked By: Michael Rendina  
 Driller: Boart Longyear  
 Drilling Method: Hand Auger/Sonic  
 Sampling Method: Split Spoon  
 Sampling Interval: Continuous

Date Started: 5/12/10  
 Date Completed: 5/17/10  
 Northing: 1769344.105  
 Easting: 6470619.400  
 Elevation: 54.39  
 Boring Depth: 132 feet

Client: The Boeing Company  
 Site: Former C-6 Facility  
 Location: Los Angeles, California  
 Project No.: 1155.013

Page: 1 of 9

Depth (ft)	Sample Number	Sample Depth	Blow Count (per foot)	OVM (ppm)	Graphic Log	Soil Classification	Description	Well Completion Details
0							Note: Upper 10 feet of boring cleared for utilities by geophysical and hand auger methods.	
2								
4								
6							Note: First core run with 10" bit, 7" core barrel.	
8						SP	Dark yellowish brown to brown (10YR 4/6-5/6), SAND, medium dense, fine-grained, poorly graded, trace to slightly silty, slightly micaceous, no stain, no odor.	
10						SC	Brown to dark brown (10YR 4/6-5/6), CLAYEY SAND, slightly moist, dense, very fine- to fine-grained, poorly graded, clayey, locally slightly plastic, locally friable, slightly micaceous, no stain, no odor.	
12						SM	Brown to dark brown (10YR 4/6-5/6), SANDY SILT/SILTY SAND, slightly moist, stiff/dense, poorly graded, very fine sand in a silty matrix, locally slightly clayey, no stain, no odor.	
14								



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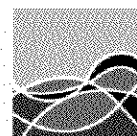
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Depth (ft)	Sample Number	Sample Depth	Blow Count (per foot)	OVM (ppm)	Graphic Log	Soil Classification	Description	Well Completion Details
17								
19						SP	Yellowish brown (10YR 5/4), SAND, moist, medium dense, very fine- to fine-grained, poorly graded, silty, slightly micaceous, no stain, no odor.	
21						SM	Yellowish brown (10YR 5/4), SILTY SAND/SANDY SILT, moist, medium dense/stiff, very fine- to fine-grained sand in a locally silty/clayey matrix, poorly graded, no stain, no odor.	
23	EWC003_SS20100512_23_01			2.8				
25						SC/SM	Yellowish brown (10YR 5/4), SANDY CLAY/SANDY SILT, moist, stiff, very fine- to fine-grained sand in a locally silty/clayey matrix, poorly graded, locally well indurated, locally friable, slightly plastic, some slickensides noted, caliche stringers and nodules noted below 27 feet bgs.	
27								
29								



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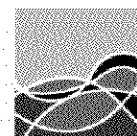
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Depth (ft)	Sample Number	Sample Depth	Blow Count (per foot)	OVM (ppm)	Graphic Log	Soil Classification	Description	Well Completion Details
32							Note: At 32 feet bgs, end of day, resume drilling on 5/13/10 at 32 feet bgs.	
34						SM	Light yellowish brown (10YR 6/4), SILTY SAND, moist, very fine- to fine-grained, poorly graded, silty, slightly micaceous, occasional well indurated siltstone/sandstone micaceous fragments, no stain, no odor.	
36								
38						ML	Light yellowish brown (10YR 6/4), SILT/CLAYEY SILT, moist, stiff, very fine- to fine-grained sand in a locally silt to silty clay matrix, poorly graded, slightly plastic, slightly micaceous, no stain, no odor.	
40								
42	EWC003_SS20100513_43_01			1.6		SM	Light yellowish brown (10YR 6/4), SILTY SAND/SANDY SILT, moist, dense, fine-grained, poorly graded, silty, slightly micaceous, slightly oxidized locally, no stain, no odor.	Neat Cement Grout 5" Sch 80 PVC Casing
44								



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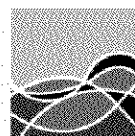
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Depth (ft)	Sample Number	Sample Depth	Blow Count (per foot)	OVM (ppm)	Graphic Log	Soil Classification	Description	Well Completion Details
47						ML	Brown (10YR 5/3), SANDY SILT, moist, stiff, some sand, very fine-grained in silty/silty clay matrix, poorly graded, slightly micaceous, no stain, no odor.	
49						SM/SC	Olive brown (2.5Y 4/3), SILTY SAND/CLAYEY SAND, moist, dense to very dense, very fine- to fine-grained sand in a locally silty to clayey matrix, poorly graded, slightly micaceous, oxidized veinlets, no stain, no odor.	
51						SP	Light gray to light yellowish brown (2.5Y 6/2-6/3), SAND, moist, medium dense, very fine- to fine-grained sand, poorly graded, trace to some silt, slightly micaceous, unconsolidated, no stain, no odor.	
51						SM	Light brown to brown (7.5Y 6/3-5/3), SILTY SAND, moist, medium dense to dense, very fine- to fine-grained, poorly graded, trace caliche nodules, slightly oxidized throughout, slightly micaceous, no stain, no odor.	
51						SP	Reddish yellow (7.5Y 6/6), SAND with GRAVEL, slightly moist, medium dense, predominately very fine- to fine-grained with angular gravel fragments to 2" diameter, gap graded, some silt, slightly micaceous, no stain, no odor.	
53						ML	Light brown to reddish yellow, SILT, moist, medium stiff, friable to very slightly plastic, micro-laminated, oxidized along laminations, some very fine sand in silt matrix, slightly micaceous, no stain, no odor.	
55						SM	Strong brown to brown (7.5Y 4/6-4/3), SILTY SAND/SANDY SILT, moist, very fine-grained, poorly graded, silty, micro-laminated, locally slightly plastic, micaceous, oxidized along laminations, micaceous, no stain, no odor.	
57						SC	Strong brown to brown (7.5Y 4/6-4/3), CLAYEY SAND, moist, dense, very fine- to fine-grained sand, poorly graded, clayey to silty matrix, slightly micaceous, no stain, no odor.	
59						SM	Strong brown to brown (7.5Y 4/6-4/3), SILTY SAND, moist, dense, very fine- to fine-grained sand, poorly graded, less clay content than above, slightly micaceous, no stain, no odor.	



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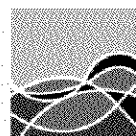
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Depth (ft)	Sample Number	Sample Depth	Blow Count (per foot)	OVM (ppm)	Graphic Log	Soil Classification	Description	Well Completion Details
62	EWC003_SS20100513_63_01			1.4		ML	Strong brown to brown (7.5Y 4/6-4/3), SILT, stiff, trace to some very fine- to fine-grained sand, weakly micro-laminated, locally highly oxidized, slightly micaceous, no stain, no odor.	
						SM	Olive (5Y 4/4), SILTY SAND, moist, very fine- to fine-grained, poorly graded, micro-laminated, locally highly oxidized along laminations, silty matrix, micaceous, no stain, no odor.	
						SP	Gray to olive gray, SAND, wet to saturated, dense, very fine- to fine-grained, poorly graded, trace silt, slightly oxidized locally, micaceous, no stain, no odor.	
64						SM	Olive (5Y 4/4), SILTY SAND, moist, medium dense, very fine- to fine-grained, poorly graded, micro-laminated, oxidized along laminations, silty, micaceous.	
66	EWC003_SS20100513_73_01			2.0		ML	Olive brown (2.5Y 4/3), SILT, moist, stiff, micro-laminated, slightly oxidized locally, micaceous, trace to some very fine sand throughout.	
68						SP	Grayish brown (2.5Y 5/2), SAND, moist, dense, very fine- to fine-grained, poorly graded, silty, trace clay, micaceous, massive, no stain, no odor.	
70						ML/CL	Light yellowish brown (10YR 6/4), SILTY CLAY/CLAYEY SILT, approximately 3-4" silty clay/clayey silt lens, trace to some very fine- to fine-grained sand throughout, micro-laminated, weakly oxidized, no stain, no odor.	
72						SP	Dark grayish brown to light olive brown (2.5Y 4/2-4/3), SAND, moist, dense, very fine- to fine-grained, poorly graded, silty, trace clay, micaceous, massive, no stain, no odor.	
74						SM	Light olive brown, SILTY SAND, wet, dense, very fine-grained, silty, micaceous, massive.	



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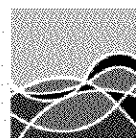
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Depth (ft)	Sample Number	Sample Depth	Blow Count (per foot)	OVM (ppm)	Graphic Log	Soil Classification	Description	Well Completion Details
77	EWC003_SS20100513_77_01					SP	<p><u>Note:</u> at 75 feet bgs, thin clay stringers to 2" thick noted.</p> <p>Olive yellow (2.5Y 6/6), SAND, wet, dense, poorly graded, fine- to medium-grained, some silt, slightly oxidized, micaceous, no stain, no odor.</p>	
79						SM	<p>Olive yellow (2.5Y 6/6), SANDY SILT/SILTY SAND, wet, stiff, poorly graded, very fine-grained sand in a silty to slightly clayey matrix, micro-laminated, locally oxidized along laminations, micaceous, no stain, no odor.</p>	
81						SP	<p>Olive yellow (2.5Y 6/6), SAND, moist to wet, medium dense, fine- to medium-grained, poorly graded, unconsolidated, massive, occasional 1" to 2" thick clay stringer in the upper part of the interval.</p> <p><u>Note:</u> Based upon the anticipated depth to the Middle Bellflower Mud (MBFM) at 70-90' bgs, it was decided to set the temporary 10" conductor casing at 78 foot depth.</p>	<p>Temp. conductor casing was set at 78 feet bgs</p> <p>10" Diam.</p> <p>9" Diam. below temp. conductor casing</p>
83								
85								
87							<p><u>Note:</u> Color change to olive gray (5Y 5/2), at 86 feet bgs.</p>	<p>Neat Cement Grout</p> <p>5" Sch 80 PVC Casing</p>
89								



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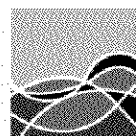
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Depth (ft)	Sample Number	Sample Depth	Blow Count (per foot)	OVM (ppm)	Graphic Log	Soil Classification	Description	Well Completion Details
92						ML	Olive (5Y 5/4), SANDY SILT, stiff, very fine sand in silty matrix, poorly graded, micro-laminated, oxidized along laminations, micaceous, no stain, no odor.	
						SM	Olive (5Y 5/4), SILTY SAND, wet, medium dense, very fine-grained, poorly graded, micro-laminated, locally oxidized along laminations, no stain, no odor.	
						SP	Olive (5Y 5/4), SAND, wet, medium dense, very fine- to medium-grained, poorly graded, some silt, slightly oxidized, micaceous, massive, no stain, no odor.	
94						SM	Olive (5Y 5/4), SAND, wet, medium dense, very fine- to medium-grained, poorly graded, some silt, slightly oxidized, micaceous, massive, no stain, no odor.	
						ML	Olive (5Y 5/4), SILTY SAND, very fine-grained sand in silty matrix, poorly graded, occasional clay stringers to 0.5" thick, slightly micaceous, no stain, no odor.	
96						ML	Olive (5Y 5/4), SILT to SANDY SILT, moist to wet, stiff to hard, very fine-grained sand in silty matrix, micro-laminated, slightly oxidized along laminations, micaceous, no stain, no odor.	
98						SC	Olive (5Y 5/4), CLAYEY SAND, saturated, medium dense to dense, very fine- to medium-grained, poorly graded, abundant shell fragments/platey angular fragments scattered throughout, clayey, silty, micaceous, no stain, no odor.	
100								
102	EWC003_SS20100513_103_01			2.3		SP	Olive (5Y 5/4), SAND, wet, medium dense to dense, fine- to medium-grained, poorly graded, some silt, slightly oxidized, micaceous, massive, no stain, no odor.	
104								



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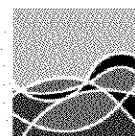
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107						SM	Reddish brown (5YR 5/4), SILTY SAND, wet, medium dense to dense, fine- to medium-grained, poorly graded, occasional coarse grains scattered throughout, well cemented sandstone fragments to 1" diameter, shell debris.	<p>#2/12 Sand</p> <p>5' Stainless Steel 0.02 Slot Continuous Wire-wrap Screen</p>
109						SP	Light yellowish brown to reddish brown, SAND, wet, medium dense to dense, fine- to medium-grained, poorly graded, locally highly oxidized, occasional well cemented sandstone fragments, no stain, no odor.	
111								
113								
115								
117								
119								



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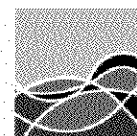
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122	EWC003_SS20100513_122_01					SP		
124						SC/SM	Light olive brown (2.5Y 5/3), SANDY SILT/SANDY CLAY, wet, stiff to very stiff, poorly graded, very fine sand in silty clay matrix, slightly micaceous, no stain, no odor.	
126								
128						SP	Olive brown, SAND, wet, medium dense to dense, fine- to medium-grained, trace coarse-grained sand throughout, slightly micaceous, no stain, no odor.	
130								
132						CL	Olive brown to brown, CLAY, hard, well indurated, mottled with caliche.	
134								

Notes: Total depth at 132 feet. Groundwater encountered at approximately 63.5 feet bgs. Temporary conductor casing set at 78 feet. Conductor casing removed and boring completed as an extraction well.



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